

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-12 (Canceled without prejudice or disclaimer).

13. (Previously Presented) A semiconductor device comprising:

a semiconductor substrate;

a gate electrode formed on said semiconductor substrate;

a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;

a connection layer disposed above said gate electrode through an insulating layer; and

a plug connected electrically with said connection layer and said diffusion layer,

wherein said plug comprises a main conductive film and an adjacent conductive film disposed outside of said main conductive film, and

said main conductive film includes copper as a main constituent element, and

said adjacent conductive film includes as a main constituent element at least one element selected from a group consisting of ruthenium, iridium, and osmium.

14. (Previously Presented) A semiconductor device comprising:

- a semiconductor substrate;
- a gate electrode formed on said semiconductor substrate;
- a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;
- a connection layer disposed above said gate electrode through an insulating layer; and
- a plug connected electrically with said connection layer and said diffusion layer,

wherein said plug comprises a main conductive film and an adjacent conductive film disposed outside of said main conductive film, and

- said main conductive film includes copper as a main constituent element,
- said adjacent conductive film includes as a main constituent element at least one element selected from a group consisting of rhodium, ruthenium, iridium, and osmium and platinum, wherein said adjacent conductive film includes as an added constituent element at least one element selected from a group consisting of palladium, cobalt, nickel and titanium.

15. (Previously Presented) A semiconductor device according to Claim 14, wherein said adjacent conductive film includes said added constituent element with said at least one element selected from a group consisting of palladium, cobalt, nickel and titanium with a concentration of not less than 0.14 at.% and not more than 25 at.%.

16. (Previously Presented) A semiconductor device comprising:

- a semiconductor substrate;
- a gate electrode formed on said semiconductor substrate;
- a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;
- a connection layer disposed above said gate electrode through an insulating layer; and
- a plug connected electrically with said connection layer and said diffusion layer,

wherein said connection layer comprises a main conductive film and an adjacent conductive film disposed outside of said main conductive film, and

- said main conductive film includes copper as a main constituent element, and
- said adjacent conductive film includes as a main constituent element at least one element selected from a group consisting of ruthenium, iridium, and osmium.

17. (Previously Presented) A semiconductor device comprising:

- a semiconductor substrate;
- a gate electrode formed on said semiconductor substrate;
- a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;
- a connection layer disposed above said gate electrode through an insulating layer; and
- a plug connected electrically with said connection layer and said diffusion layer,

wherein said connection layer comprises a main conductive film and an adjacent conductive film disposed outside of said main conductive film, and

said main conductive film includes copper as a main constituent element, and said adjacent conductive film includes as a main constituent element at least one element selected from a group consisting of rhodium, ruthenium, iridium, osmium and platinum, wherein said adjacent conductive film includes as an added constituent element at least one element selected from a group consisting of palladium, cobalt, nickel and titanium.

18. (Previously Presented) A semiconductor device according to Claim 17, wherein said adjacent conductive film includes said added constituent element with said at least one element selected from a group consisting of palladium, cobalt, nickel and titanium with a concentration of not less than 0.14 at.% and not more than 25 at.%.

19. (Currently Amended) A semiconductor device comprising:
a semiconductor substrate;
a gate electrode formed on said semiconductor substrate;
a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;
a connection layer disposed above said gate electrode through an insulating layer; and
a plug connected electrically with said connection layer and said gate electrode,

wherein said plug includes copper as a main constituent element, and said gate electrode includes as a main constituent element at least one element selected from a group consisting of ruthenium, iridium, osmium and platinum, as an added element, at least one element selected from palladium (Pd), cobalt (Co), nickel (Ni) and titanium (Ti).

20. (Previously Presented) A semiconductor device comprising:

a semiconductor substrate;

a gate electrode formed on said semiconductor substrate;

a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;

a connection layer disposed above said gate electrode through an insulating layer; and

a plug connected electrically with said connection layer and said gate electrode,

wherein said plug includes copper as a main constituent element, and said gate electrode includes as a main constituent element at least one element selected from a group consisting of rhodium, ruthenium, iridium, osmium and platinum, wherein said gate electrode includes as an added constituent element at least one element selected from a group consisting of palladium, cobalt, nickel and titanium.

21. (Previously Presented) A semiconductor device according to Claim 20, wherein said gate electrode includes said added constituent element with said at

least one element selected from a group consisting of palladium, cobalt, nickel and titanium with a concentration of not less than 0.14 at.% and not more than 25 at.%.

22. (Currently Amended) A semiconductor device comprising:

a semiconductor substrate;

a gate electrode formed on said semiconductor substrate;

a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;

a connection layer disposed above said gate electrode through an insulating layer; and

a plug connected electrically with said connection layer and said gate electrode,

wherein said plug includes copper as a main constituent element, and said gate electrode includes a first conductive film and a second conductive film disposed at a position nearer to said plug than said first conductive film, and

said first conductive film includes silicon, and

said second conductive film includes as a main constituent element at least one element selected from a group consisting of ruthenium, iridium, osmium and platinum.

23. (Previously Presented) A semiconductor device comprising:

a semiconductor substrate;

a gate electrode formed on said semiconductor substrate;

a diffusion layer formed within said semiconductor substrate and corresponding to said gate electrode;

a connection layer disposed above said gate electrode through an insulating layer; and

a plug connected electrically with said connection layer and said gate electrode,

wherein said plug includes copper as a main constituent element, and said gate electrode includes a first conductive film and a second conductive film disposed at a position nearer to said plug than said first conductive film, and

said first conductive film includes silicon, and

said second conductive film includes as a main constituent element at least one element selected from a group consisting of rhodium, ruthenium, iridium, osmium and platinum, wherein said second conductive film includes as an added constituent element at least one element selected from a group consisting of palladium, cobalt, nickel and titanium.

24. (Previously Presented) A semiconductor device according to Claim 23, wherein said second conductive film includes said added constituent element with said at least one element selected from a group consisting of palladium, cobalt, nickel and titanium with a concentration of not less than 0.14 at.% and not more than 25 at.%.